

POPULATIONS



- ◆ **Population** – the number of individuals of the same _____ in a given area at a given _____. Populations of organisms can change at different times of the day because some animals are _____ (active at night) while others are diurnal (active during _____), at different times of the year (as a result of migration) and so on.

- ◆ **Factors affecting Populations**

1. Available resources (e.g. food, _____)
2. Activities of other organisms (e.g. predators, _____)
3. Organism's own characteristics (e.g. gestation period, number of young produced, nurturing of young, migratory)
4. Time of day or year (e.g. tides, seasons, nocturnal or diurnal)
5. Weather (e.g. _____)

- ◆ **Population Change** – depends on birth, death, immigration and emigration on the whole

$$\text{Population Change} = (B + I) - (D + E)$$

- ◆ **Population Density** – The number of organisms in a given area can affect the population due to competition for resources such as _____ and spread of disease.

$$\text{Population Density} = \frac{\text{the number of individuals}}{\text{area or volume occupied}}$$

For example, if there are 2000 pine trees over an area of 10 square kilometres, the population density would be _____ pine trees per square kilometre. However, bacterial population density estimates may be 2 thousand bacteria per millilitre of blood.

- ◆ **3 Population Sampling Techniques**

1. Quadrat
2. Transect
3. Mark-Recapture Method